

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-34. (Cancelled)

35. (Previously presented) A process for obtaining lipids from microorganisms comprising:
- a) growing said microorganisms in a fermentation medium to produce a fermentation broth;
 - b) contacting said fermentation broth with a base to dissolve at least a part of any proteins present in said fermentation broth;
 - c) increasing the temperature of said fermentation broth to at least about 50°C to lyse cells of said microorganisms to produce a lysed cell mixture;
 - d) separating substances of different densities from said lysed cell mixture to produce a phase separated mixture comprising a heavy layer and a light layer wherein said heavy layer comprises an aqueous solution and said light layer comprises emulsified lipids;
 - e) removing said heavy layer from said phase separated mixture;
 - f) adding an aqueous washing solution to said light layer to form a further mixture;
 - g) separating substances of different densities from said mixture of step (f) to produce an additional phase separated mixture comprising an additional heavy layer and an additional light layer;
 - h) removing said additional heavy layer from said additional phase separated mixture; and
 - i) repeating said steps (f)-(h) until said lipid becomes substantially non-emulsified;
whereby lipids are obtained from microorganisms.
36. (Original) The process of Claim 35, wherein said base is selected from the group consisting of hydroxides, carbonates, bicarbonates, and mixtures thereof.

37. (Original) The process of Claim 35, wherein said step of producing the phase separated mixture comprises centrifuging said lysed cell mixture.

38-46. (Cancelled)

47. (Previously presented) The process of claim 35, wherein the aqueous solution of step (d) comprises solid cell materials.

48. (Previously presented) The process of claim 35, wherein the microorganisms are capable of growth at salinity level of less than about 12 g/L of sodium chloride.

49. (Previously presented) The process of claim 35, wherein the microorganisms comprise at least about 30% by weight of lipid.

50. (Previously presented) The process of claim 35, wherein the microorganisms are selected from the group consisting of algae, fungi, bacteria and protist.

51. (Previously presented) The process of claim 50, wherein the microorganisms comprise microorganisms of the order Thraustochytriales.

52. (Previously presented) The process of claim 51, wherein the microorganisms are selected from the genus *Thraustochytrium*, *Schizochytrium* and mixtures thereof.

53. (Previously presented) The process of claim 52, wherein the microorganisms are selected from the group consisting of microorganisms having the identifying characteristics of ATCC number 20888, ATCC number 20889, ATCC number 20890, ATCC number 20891 and ATCC number 20892, mutant strains derived from any of the foregoing, and mixtures thereof.

54. (Previously presented) The process of claim 35, wherein the microorganisms are capable of producing at least about 0.1 grams per liter per hour of docosahexaenoic acid.

55. (Previously presented) The process of claim 35, wherein at least about 30% of the lipid is docosahexaenoic acid.

56. (Previously presented) The process of claim 35, wherein step (b) is conducted without drying the microorganisms.

57. (Cancelled)

58. (New) A process for obtaining lipids from microorganisms comprising:

- a) growing said microorganisms in a fermentation medium to produce a fermentation broth;
- b) contacting said fermentation broth with a base to dissolve at least a part of any proteins present in said fermentation broth;
- c) increasing the temperature of said fermentation broth to at least about 75°C to lyse cells of said microorganisms to produce a lysed cell mixture;
- d) separating substances of different densities from said lysed cell mixture to produce a phase separated mixture comprising a heavy layer and a light layer wherein said heavy layer comprises an aqueous solution and said light layer comprises emulsified lipids;